

10/521513

1/13

IFN β G162C-Ig direct fusion construct open reading frame

1 ATGCCCTGGGAAGATGTCGTGATCCTTGGAGCCCTCAATAATACTTTGGATAAATGTTTGCA 60
M P G K M V V I L G A S N I L W I M F A

61 GCTTCTCAAGCCATGAGCTACAACTTGCTTGGAATCCTACAAAGACGACGAATTTTCAG 120
A S Q A M S Y N L L G F L Q R S S N F Q

121 TGTGAGAAGCTCCTGTGGCAATTGAATGGGAGGCTTGAATACTGCCCTCAAGGACAGGATG 180
C Q K L L W Q L N G R L E Y C L K D R M

181 AACTTTGACATCCCTGAGGAGATTAAAGCAGCTGCAGCAGTTCCAGAAAGGAGACGCCGCA 240
N F D I P E E I K Q L Q Q F Q K E D A A

241 TTGACCATCTATGAGATGCTCCAGAACATCTTTGCTATTTTTCAGACAAGATTCTATCTAGC 300
L T I Y E M L Q N I F A I F R Q D S S S

301 ACTGGCTGGAATGAGACTATTGTTGAGAACCTCCTGGCTAATGTCATCATCAGATAAAC 360
T G W N E T I V E N L L A N V Y H Q I N

361 CATCTGAAGACAGTCCCTGGAAGAAAACCTGGAGAAAAGATTTCACCGGGGAAACTC 420
H L K T V L E E K L E K E D F T R G K L

421 ATGAGCAGTCTGCACCTGAAAAGATATTATGGGAGGATTCTGCATTACCTGAAGGCCAAG 480
M S S L H L K R Y Y G R I L H Y L K A K

FIG. 1 A

BEST AVAILABLE COPY

481 GAGTACAGTCACTGTGCTGGACCATAGTCAGAGTGGAATCCTAAGGAACHTTTACTTC 540
E Y S H C A W T I V R V E I L R N F Y F

541 ATTAACAGACTTACATGTTACCTCCGAAACGTCGACAAACTCACACATGCCCCACCGTGC 600
I N R L T C Y L R N V D K T H T C P P C

601 CCAGCACCTGAACCTCTGGGGGACCGTCAGTCTTCTCTCCCCCAAAACCCAGGAC 660
P A P E L L G G P S V F L F P P K P K D

661 ACCCTCATGATCTCCCGGACCCCTGAGGTCACATGCGTGGTGGACGTAGCCACGAA 720
T L M I S R T P E V T C V V V D V S H E

721 GACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACA 780
D P E V K F N W Y V D G V E V H N A K T

781 AAGCCGGGAGGAGCAGTACAACAGCACGTACCGTGTGGTCAAGCGTCCCTCACCGTCCCTG 840
K P R E E Q Y N S T Y R V V S V L T V L

841 CACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAGCCCTCCCA 900
H Q D W L N G K E Y K C K V S N K A L P

901 GCCCCCATCGAGAAACCATCTCCAAAGCCAAAGGCGAGCCCCGAGAACCCACAGGTGTAC 960
A P I E K T I S K A K G Q P R E P Q V Y

FIG. 1 B

10/521513

3/13

961 ACCCTGCCCCCATCCCGGATGAGCTGACCAAGAACCAGTCAAGCTGACCTGCGTGGTC 1020
T L P P S R D E L T K N Q V S L T C L V

1021 AAAGGCTTCTATCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCCGGAGAAC 1080
K G F Y P S D I A V E W E S N G Q P E N

1081 AACTACAAGACCAAGCCCTCCCGTGTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAG 1140
N Y K T T P P V L D S D G S F F L Y S K

1141 CTCACCGTGGACAAGAGCAGGTGGCAGCAGGGAACGTCCTTCTCATGCTCCGTGATGCAT 1200
L T V D K S R W Q Q G N V F S C S V M H

1201 GAGGCTCTGCACAACCACTACACGCAGAGCCCTCTCCCTGTCTCCCGGAAATGA 1257
E A L H N H Y T Q K S L S L S P G K *

FIG. 1 C

4/13

2003021513

IFN β G162C-Ig fusion G4S linker construct open reading frame

1 ATCCCTGGGAAGATGGTCGTGATCCCTTGGAGCCTCAAATATACATTGGATAATGTTTCCA 60
M P G K M V V I L G A S N I L W I M F A

61 GCTTCTCAAGCCATGAGCTACAACTTGCTTGGATTCCCTACAAAGACAGCAATTTTCAG 120
A S Q A M S Y N L L G F L Q R S S N F Q

121 TGTCAAGAGCTCCTGTGGCAATTGAATGGGAGGCTTGAATACTGCCTCAAGGACAGGATG 180
C Q K L L W Q L N G R L E Y C L K D R M

181 AACTTTGACATCCCTGAGGAGATTAAGCAGCTGCAGCAGTCCAGAAGGAGGACGCCGCA 240
N F D I P E E I K Q L Q Q F Q K E D A A

241 TTGACCATCTATGAGATGCTCCAGAACATCTTTGCTATTTTCAGACAAAGATTCTATAGC 300
L T I Y E M L Q N I F A I F R Q D S S S

301 ACTGGCTGGAATGAGACTATTGTTGAGAACCTCCTGGCTAATGCTCTATCATCAGATAAAC 360
T G W N E T I V E N L L A N V Y H Q I N

361 CATCTGAAGACAGTCTCTGGAAGAAAACCTGGAGAAAGAGATTTCACCGGGAAGAACTC 420
H L K T V L E E K L E K E D F T R G K L

FIG. 2A

10/521513

5/13

421 ATGAGCAGTCTGCACCTGAAAAGATATTATGGGAGGATTCTGCATTACCTGAAGGCCAAG 480
M S S L H L K R Y Y G R I L H Y L K A K

481 GAGTACAGTCACCTGCGCTGGACCATAGTCAGAGTGGAAATCCTAAGGAACCTTTACTTC 540
E Y S H C A W T I V R V E I L R N F Y F

541 ATTAACAGACTTACATGTACTCTCCGAAACGGCGGTGGTGGCAGCGTCGACAAAACTCAC 600
I N R L T C Y L R N G G G S V D K T H

601 ACATGCCCCACCGTGCCAGCACCTGAACCTCCTGGGGGACCGTCAGTCTTCTTCCCC 660
T C P P C P A P E L L G G P S V F L F P

661 CCAAAACCCCAAGGACACCCCTCATGATCTCCCGGACCCCTGAGGTACATGCGTGGTGTG 720
P K P K D T L M I S R T P E V T C V V V

721 GACGTGAGCCACGAAGACCCTGAGGTCAAGTCAACTGGTACGTGGACGGCGTGGAGGTG 780
D V S H E D P E V K F N W Y V D G V E V

781 CATAATGCCAAGACAAAGCCGGGAGGAGCAGTACAACAGCACGTACCGTGTGGTCAGC 840
H N A K T K P R E E Q Y N S T Y R V V S

841 GTCCTCACCGTCTCGCACCAGGACTGGCTGAATGCAAGGAGTACAAGTCCAAGGTCTCC 900
V L T V L H Q D W L N G K E Y K C K V S

901 AACAAAGCCCTCCAGCCCCCATCGAGAAACCATCTCCAAGCCAAAGGCAGCCCCGA 960
N K A L P A P I E K T I S K A K G Q P R

FIG. 2B

6/13

961 GAACCACAGGTGTACACCCCTGCCCCCATCCCGGATGAGCTGACCAAGAACAGGTCAGC 1020
E P Q V Y T L P P S R D E L T K N Q V S

1021 CTGACCTGCCCTGGTCAAAGGCTTCTATCCACGCGACATCGCCCGTGGAGTGGGAGAGCAAT 1080
L T C L V K G F Y P S D I A V E W E S N

1081 GGGCAGCCGGAGAACTACAAGACCGCTCCCGTGTGGACTCCGACGGCTCCTTC 1140
G Q P E N Y K T T P P V L D S D G S F

1141 TTCCTCTACAGCAAGCTCACCCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGCTTCTCTCA 1200
F L Y S K L T V D K S R W Q Q G N V F S

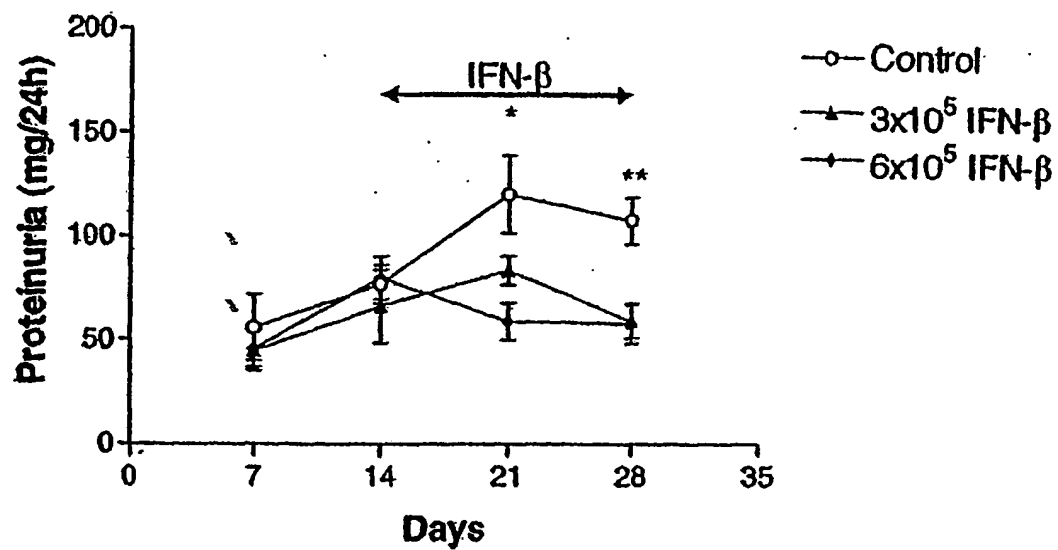
1201 TGCTCCGTGATGCATGAGGCTCTGCACAACCACCTACACGCAGAAAGAGCCCTCTCCCTGTCT 1260
C S V M H E A L H N H Y T Q K S L S L S

1261 CCCGGGAATGA 1272
P G K *

FIG. 2 C

10/521513

FIG. 3



10/521513

FIG. 4

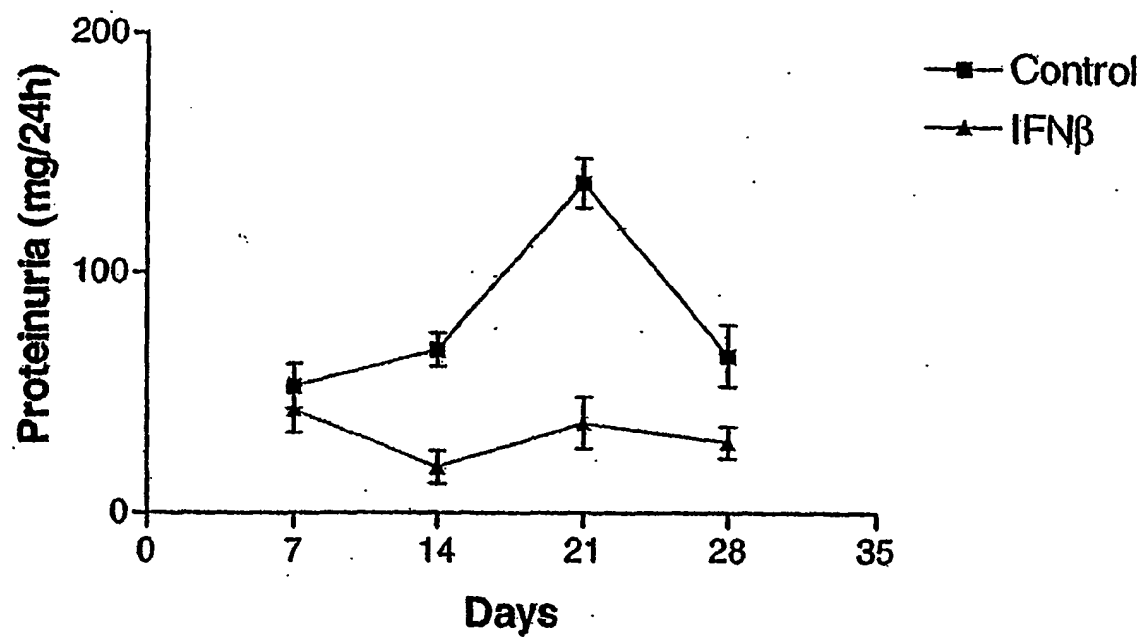


FIG. 5

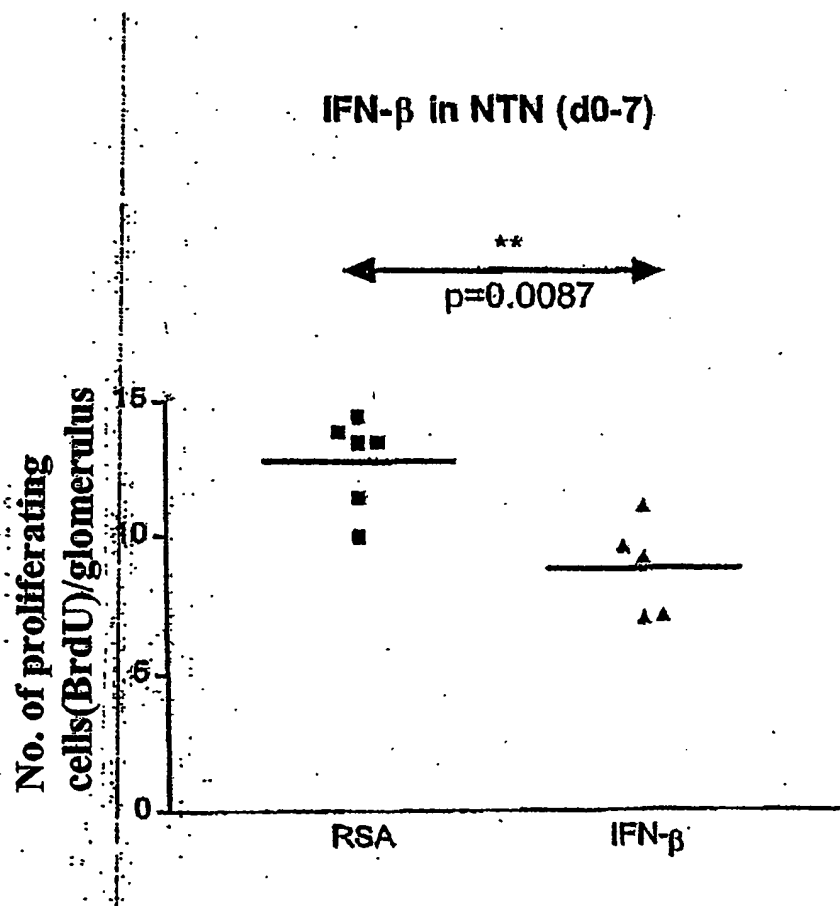


FIG. 6

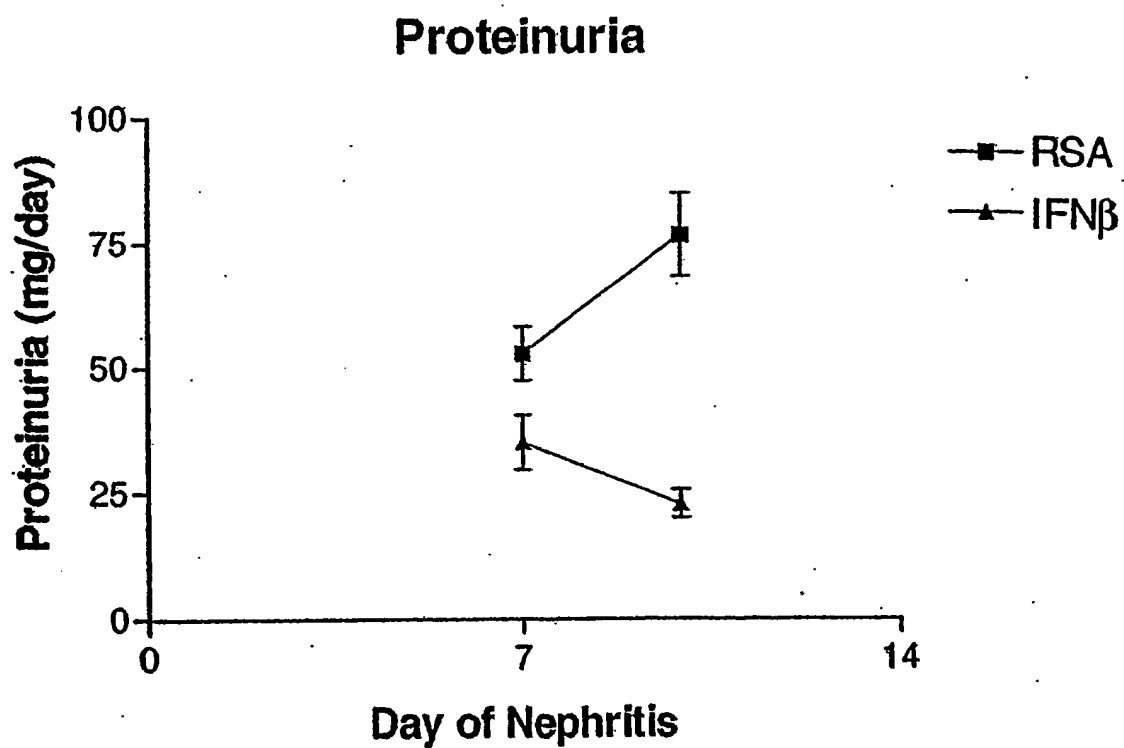
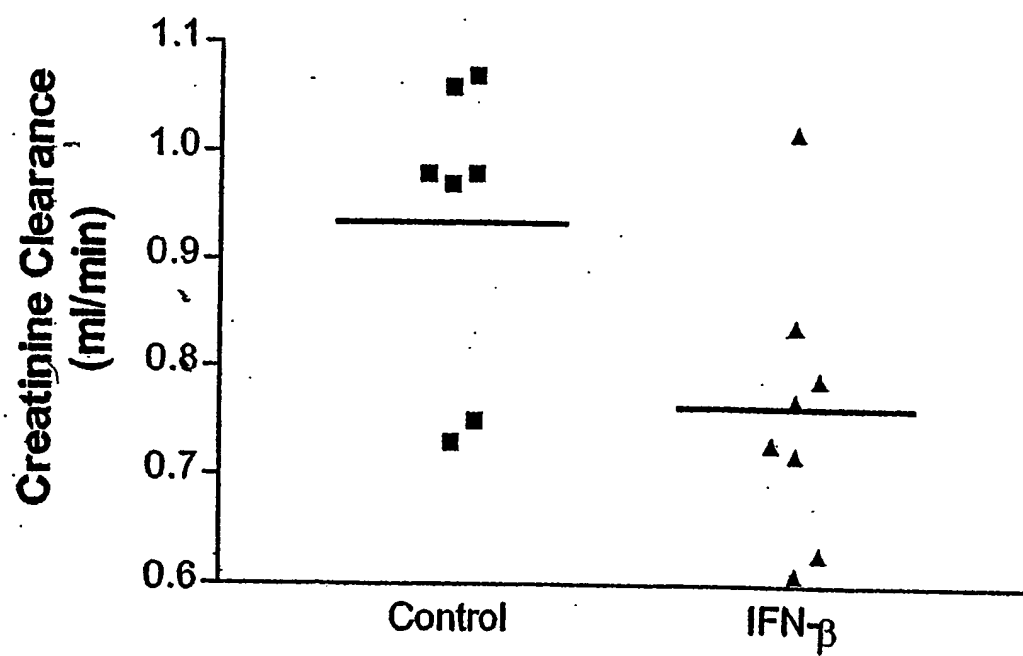
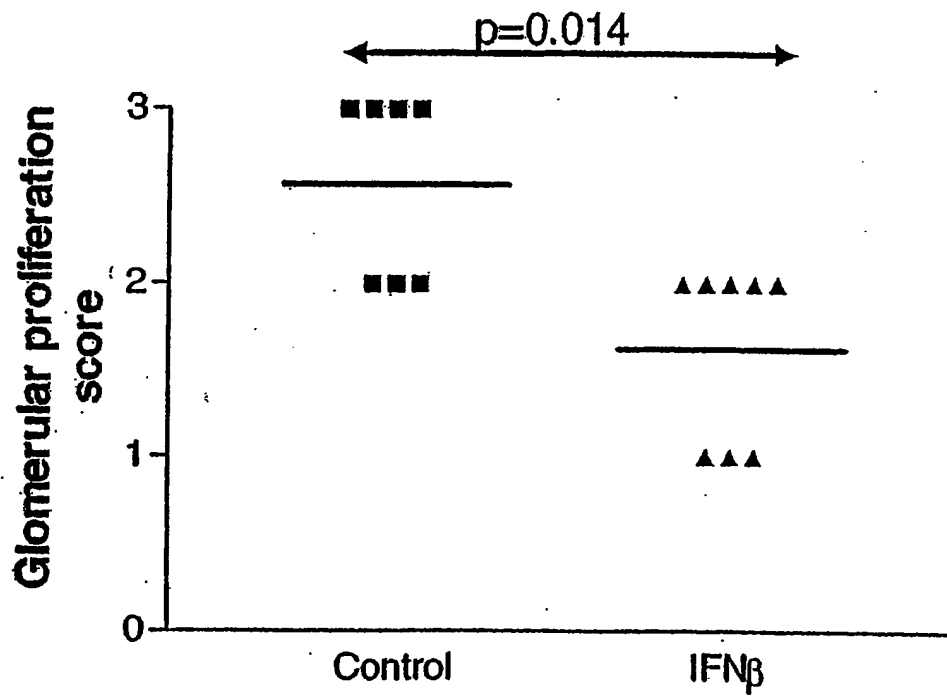


FIG. 7



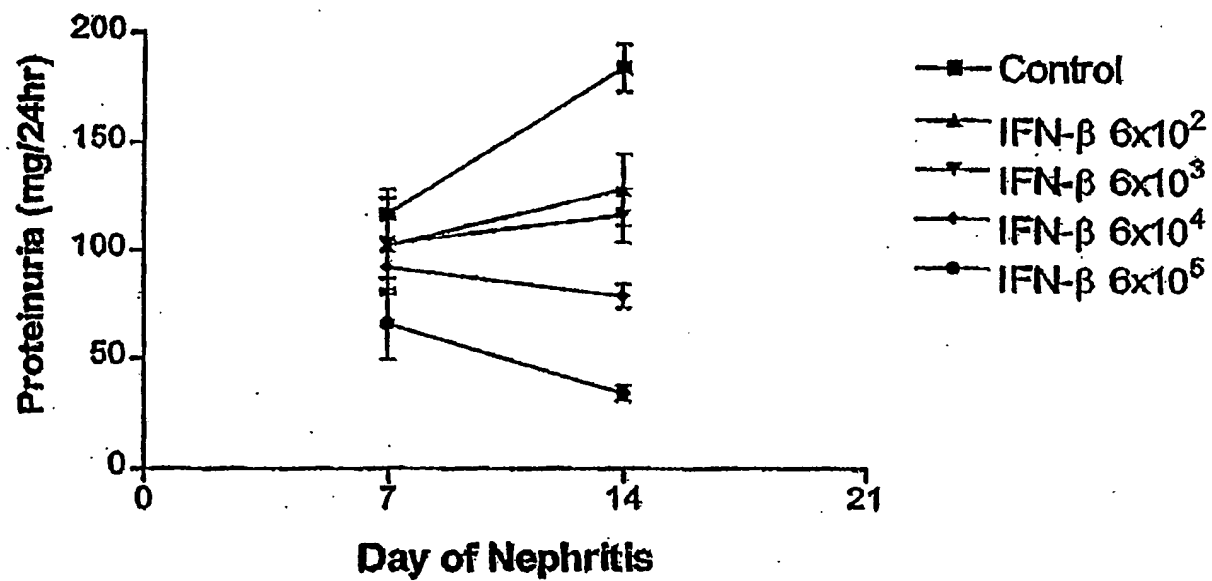
10/521513

FIG. 8



10/521513

FIG. 9



**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☒ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.